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(54) Title: HYDROGENATION CATALYST, PREPARATION THEREOF, AND METHOD FOR THE PREPARATION OF
GAMMA-BUTYROLACTONE FROM MALEIC ANHYDRIDE USING THE CATALYST

(57) Abstract: The present invention relates to a hydrogenation catalyst represented by the following formula 1, a method for the
preparation thereof, and a method for preparing gamma-butyrolactone using this catalyst. The method for preparing gamma-butyro-
lactone from maleic anhydride using the catalyst of the invention prepared by stabilizing the precursor particles of copper oxide, zinc
oxide, and manganese oxide with a silica exhibits high selectivity, high yield, and high productivity under the operation conditions
of a low molar ratio of hydrogen with regard to the reactants, and enables the preparation of gamma-butyrolactone from maleic an-
hydride with long-term stability without requiring frequent re-activation of the catalyst: Formula (I) $\text{CuO}(a)\text{ZnO}(b)\text{MnO}_2(c)\text{SiO}_2(d)$
wherein a, b, c, and d are represented on the basis of weight, wherein a is 20 to 90, b is 0.01 to 10, c is 0.01 to 5, and d is 5 to 50.

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B. FIELDS SEARCHED

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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPODOC; WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0591795 A1 (BASF Aktiengesellschaft) 13 April 1994 (13.04.94) <i>the whole document, esp table 1, Cat.D, F, H, claims.</i>	1-15
A ,	EP 0528305 A2 (Hoechst Aktiengesellschaft) 24 February 1993 (24.02.93) <i>examples, claims.</i>	1-15
A	EP 0559053 A2 (Hoechst Aktiengesellschaft) 8 September 1993 (08.09.93) <i>claims.</i>	1-15

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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